L4, L3, L2, L1, C0, R1, R2, R3, R4, R5).

Results.– The lateral deviation of the subjective point position depended ($P < 0.05$) on the group, location, and group x location interaction, due to rightward deviation of points L4, L2 and C0, and leftward deviation of the R4 point in neglect patients. This difficulty did not depend on the body side (anterior, posterior) and line (shoulder, navel). The estimate was fair in non-neglect patients and control subjects. Variability (standard deviation) also depended on the group, site and group x site interaction, with a global increase in patients, especially when neglect, which in this group predominated on the neglected side. Neglect patients also showed a narrowing of the L4–C0 distance and at a lesser degree of C0–R4.

Discussion.– Deformations of perceptual body representations extend to various lateral body points and not only to the midline, with a lateral gradient associating an ipsilesional shift of the reference center (the medial point) and a bilateral narrowing around this point, predominating on the neglected side.

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Brain correlates of spatial biases in neglect patients

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Keywords: Spatial representations; Subjective straight ahead; Subjective vertical; Spatial neglect

Objectives.– Hemispheric lesions impair space and body representations, especially in case of right injury and spatial neglect. The ipsilesional bias of the subjective straight ahead (SSA) and the contralesional tilt of the subjective vertical (SV) are well known. In parallel, patients show clinical disorders in visual exploration tasks, and can present with balance disorders. Here, we analysed the neuroanatomical correlates of these spatial difficulties.

Patients and methods.– The analysis focused on right hemisphere lesions of 22 neglect and 21 non-neglect patients (using MRIcro), and their relationship with performance in experimental tasks (SV and SSA), clinical tests (line bisection, cancellation) and balance assessment (PASS). A statistical method based on regression analysis was used to highlight areas of brain lesions which best explained biases and errors (Matlab-based VLSM code; $P < 0.01$).

Results – In each test, performance was characterized by a spatial bias in neglect patients ($P < 0.05$). The deviation of the subjective vertical was best explained by lesions of the posterior parietal cortex (Brodmann area 40), and the lateral translation of the body midline by more anterior lesions of this same cortex (Brodmann area 40) and of subcortex. Spatial errors in cancellation correlated with right frontal and anterior subcortical lesions, and in bisection with lesions centred on the parietal and frontal cortices and centrum ovale-internal capsule. Imbalance was preferentially associated with subcortical lesions (posterior thalamus and internal capsule).

Conclusion.– Specific right hemisphere lesions are implicated in spatial representation biases and manifestations of spatial neglect. We found a cortical dissociation for the SV and SSA. This suggests the specific involvement of corresponding cortical and subcortical structures in spatial information processing, depending on the type of task and cognitive demand.

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Right unilateral spatial neglect in the acute phase of the stroke

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Keywords: Evaluation; Stroke; Unilateral spatial neglect

Introduction.– Unilateral spatial neglect (USN) after a left stroke is reported infrequently, no often studied and poorly characterized. The purpose of this prospective study was to analyze right-side USN in the acute phase of the stroke.

Materials and methods.– This bicentric prospective study included patients affected by an ischemic or haemorrhagic left stoke in the first fifteen days. Our evaluation tool includes a clinical neurological examination, four paper-and-pencil nonverbal tests (from the BEN), four items of behavioural evaluation in the activities of daily living (from the ECB) and a descriptive analysis of MRIs of the initial lesions of the patients.

Results.– Forty-seven patients were assessed; eleven were excluded because of severe oral comprehension difficulties. Thirty-six patients were finally included, of which sixteen (44.4%) patients showed some degree of right USN (defined by at least two positive results from the eight paper-and-pencil and behavioural evaluation tests). The patients with right USN significantly presented a higher initial NIHSS ($P < 0.001$), more verbal disorders ($P < 0.001$) and right hemiplegia ($P = 0.03$). Line bisection and figure copying tests are positive to 14 (38.9%) and 13 (36.1%) patients respectively. The activities of daily living evaluation showed pathological results in 13 (36.1%) patients. Twelve of the 16 patients with USN had at least five positive tests among the eight paper-and-pencil tests and ecological evaluations. The MRI analysis showed a high frequency of infracortical lesions, notably in the periventricular white matter.

Discussion.– In this study, the use of nonverbal tests and an ecological evaluation revealed right USN in 44.4% of patients with acute left stroke and demonstrated the important consequences right USN has on activities of daily living.

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Preliminary validation of an attention assessment questionnaire for patients with severe traumatic brain injury

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Keywords: Severe traumatic brain injury; Attention; Activity limitations; RASB

Attention disorders are a sequel almost constant and very debilitating in severe traumatic brain injury (TBI). Yet, very few tools are available to evaluate them in terms of activity limitations as defined by the CIF. The Rating Scale of Attentional Behaviour (RASB), developed by Ponsford and Kinsella in 1991, offers interesting possibilities in this area.

Aim.– Put at the clinicians' disposal a validated French version of the RSAB.

Subjects et methods.– The 14 questions of the RASB have been carefully translated by bilingual professionals with verification by means of a back-translation. The scale was suggested to 27 patients suffering from severe TBI (self-evaluation), 27 control subjects matching on age, sex and educational level, 27 professionals and 27 patients' relatives (hetero-evaluation). Patients were also assessed with the Stroop test and the Wechsler Test Codes (DSST).

Results.– The RSAB is sensitive and discriminates well the average total score of patients (19.5) from that of controls (13.4). We can use the raw scores without conversion to standard scores because we observed no significant influence of age, sex, educational level, and with the patients, of the GCS, the coma length